

Building Management Systems EMEA

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Subject: Software Release Bulletin ENERGY MONITORING – Version 3.6.0



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ENERGY MONITORING is an Energy Management Suite for energy benchmarking and analysis in the HVAC market. It is based on Niagara NX using HTML5 technology and provides a large range of techniques for the management of all aspects of energy related data.

It is suitable for measuring the performance over several standards within your property to create an energy report and for a management system according to DIN EN ISO 50001 (BAFA listed)

ENERGY MONITORING is the ideal system to:

- manage energy by analyzing and optimizing the operation of facilities
- measure performance across multiple levels within the building or estate
- automatic creation and distribution of reports

It is fully web-enabled and able to integrate all data points having the history collection enabled in the station. This data could e.g., come from existing systems. EAGLEHAWK NX, HAWK 8000, Optimizer Advanced Controller and Saia PCD Supervisor can provide data from all metering devices or data points, available in the market. It allows to collate and manage all aspects of energy data at a central location. For operator the pre-defined charts are easy to apply.

It provides:

- Line, Bar, Ranking and Pie Charts
- Degree Day Regression Chart
- Stacked Bar Chart
- Heatmap
- Gauges & Dials
- Energy Temperature Curve
- Report on "Data Quality"
- CSV Import
- Automated reports
- Normalization of data
- Anomaly Model / Console
- Adapt currency in chart
- Kiosk mode

New features:

- Workbench 4.13u2 support
- Add Weather Station
- Anomaly Model
- Site component
- Anomaly Console
- Pie chart's 100% via tooltip
- Data Quality Alarm threshold

Bug fixes:

- Vertical Menu component does not recognise colour strings.
- Issues with multiple Y axes on the line chart.
- History extension throws duplicate history extension post csv import.
- PDF Report Save: Remove the Popup to apply the selection.
- Heatmap chart's unit is defaulting to °C when aggregator does not have units set in facets.
- Relativized Bar chart as Popup does not work in Web browser.
- N4Energy manager crashes in presence of 3rd party modules that use React library.
- Aggregator taking account nan (not a number) and infinite numbers.
- The currency sign is defaulted to dollar upon downloading a png/pdf.
- Home button does not work.
- Data Integrity: Inactive and Offline meter count are not shown on line chart and Pie chart.
- Cost display on Energy Comparator is missing.

Updated Documentation:

- Energy Manger 3.6.0 manual

For customer presentation of Niagara functionalities, a Common Demo Station (based on Niagara 4.11) is available.

Honeywell employees can download the Common Demo Station via an intranet access [n4CommonDemoStation_V4](#)

Non-Honeywell employees: Please contact your local Field Focus Person.

User	Password
admin	Clax123456
demo	Clax123456

Web Hosted Saia PCD Supervisor and demo station
[CommonDemoStation](#)

User	Password
demo	3280Murten
demo_DA	3280Murten6

Order numbers

The table below shows the ordering numbers for the SBC ENERGY MONITORING products available now:

Product	Description
PCD8.SUP-EM25	Supervisor base license 25 meter points
PCD8.SUP-EM50EXT	Supervisor license adds 50 meter points
PCD8.SUP-EM100EXT	Supervisor license adds 100 meter points
PCD8.SUP-EM500EXT	Supervisor license adds 500 meter points
PCD8.SUP-EM1KEXT	Supervisor license adds 1k meter points
PCD8.SUP-EM5KEXT	Supervisor license adds 5k meter points

PCD8.SUP-EM25 is the basic version for Saia PCD Supervisors 4.8, 4.9, 4.10, 4.10u1 - 4.10u7, 4.11, 4.12u2, 4.13u2. This version can be upgraded with all the other upgrade licenses. All the upgrade licenses are cumulative.

PC Hardware Requirements for ENERGY MONITORING

This chapter defines the minimum and recommended hardware requirements for the installation of ENERGY MONITORING. The hardware specification should be used as a guide only because it depends on number of concurrent users, metering channels, numbers of aggregator points and read frequency that affect the specific hardware required.

As a rule, classifying the projects into small, medium and large, we recommend the following hardware capacities:

Project size	No of aggregators	Processor	Min. RAM	Storage (SSD recommended)
Small	Less than 500	Intel Core i5	16 GB	500 GB
Medium	Less than 2000	Intel Core i7	16 GB	1 TB
Large	>= 5000	Intel Core i9	32 GB	1 TB & history export via RDBMS

Storage - The secondary storage is dependent on the estimated amount of Niagara history archive.

SSD is going to faster than HDD but it will not be possible to provide a performance number as it depends on too many variables.

Display	Video card and monitor capable of displaying 1024 x 768 pixel resolution or greater
Network Support	Ethernet 100 Mbit or 1Gbit NIC (network interface card) with TCP/IP support.
Connectivity	Full time high speed ISP connection recommended for remote site access (e.g. T1, ADSL, cable modem)

Platform Requirements

- **Saia PCD Supervisor**

with 4.8; 4.9; 4.10; 4.11; 4.12; 4.13u2

- The PCD8.SUP-EM25 license is the basic version for Niagara Supervisors.
- This version can be upgraded with all the other upgrade licenses (cumulative).

- **Saia PCD Supervisor supported operating Systems:**

Please check the Tridium specification of supported platforms

Operating Systems	Niagara 4.4	Niagara 4.6	Niagara 4.7	Niagara 4.8	Niagara 4.9	Niagara 4.10	Niagara 4.11	Niagara 4.12
Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter	Filter
Red Hat Enterprise Linux 7 (64-bit)	No	No	No	No	No	No	No	No
Red Hat Enterprise Linux 7.4 (64-bit)	Yes	No	No	No	No	No	No	No
Red Hat Enterprise Linux 7.5 (64-bit)	No	Yes	Yes	Yes	No	No	No	No
Red Hat Enterprise Linux 7.7/8.1 (64-bit)	No	No	No	No	Yes	Yes	Yes	No
Red Hat Enterprise Linux 8.x 64-bit	No	No	No	No	No	No	Yes	Yes
Ubuntu Desktop & Server 20.04 LTS	No	No	No	No	No	No	Yes	Yes
Windows Server 2008 R2 Standard/Enterprise, SP2 (64-bit)	No	No	No	No	No	No	No	No
Windows Server 2012 Standard/Enterprise, SP2 (64-bit)	No	No	No	No	No	No	No	No
Windows Server 2012 R2 Standard/Enterprise, SP2 (64-bit)	Yes	Yes	Yes	No	No	No	No	No
Windows Server 2016	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Windows Server 2019	No	No	No	No	Yes	Yes	Yes	Yes
Windows Server 2019 Server Core	No	No	No	No	No	No	No	No
Windows 7 Professional/Enterprise/Ultimate (32-bit/64-bit)	Yes	No	Yes	Yes	No	No	No	No
Windows 8 Professional/Enterprise/Ultimate (32-bit/64-bit)	No	No	No	No	No	No	No	No
Windows 8.1 Professional/Enterprise/Ultimate (32-bit)	Yes	Yes	Yes	Yes	No	No	No	No
Windows 8.1 Professional/Enterprise/Ultimate (64-bit)	Yes	Yes	Yes	Yes	No	No	No	No
Windows 10 (32-bit)	Yes	No	No	No	No	No	No	No
Windows 10 (64-bit)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Windows 11 (64-bit)	No	No	No	No	No	Yes	No	Yes
VMware - ESXi 5.1.0	Yes	Yes	Yes	No	No	No	No	No
VMware - ESXi 5.5	No	No	No	Yes	No	No	No	No
VMware - ESXi 6.0	No	No	No	Yesupdate 5224934	No	No	No	No
VMware - ESXi 6.7	No	No	No	No	Yesupdate 5224934	Yes	Yes	Yes
VMware - Server 2	No	No	No	No			No	No
Microsoft Virtual Server 2008	No	No	No	No	No	No	No	No

Remote Access

ENERGY MONITORING Web Browser access is possible using the newest versions of the following browsers

- Google Chrome – recommended as the web pages are optimized to this web browser
- Opera
- Firefox
- Other browsers possible

Download the software from the [Support page](#).

Installation

To install the software, copy the Energy Manager Modules into your Saia PCD Supervisor modules directory.

Restart your platform.

Please check the Support page for the latest ENERGY MONITORING version.

New module name

With Version 3.1.x the name “Energy Vision” is replaced now as well in the software

- For 2.x stations the Station Migration is required (see next chapter)

Property Sheet	
License Manager (License Manager)	
License Tier	Pro
License Status	N4 Energy Manager PRO
Active Features	<pre>--- N4 Energy Manager license pack --- [name=Line Chart, active=true, expiration=2023-03-31, attributes={png=true, pdf=true, csv=true}] [name=Bar Chart, active=true, expiration=2023-03-31, attributes={png=true, pdf=true, csv=true}] [name=Pie Chart, active=true, expiration=2023-03-31, attributes={png=true, pdf=true, csv=true}] [name=Ranking Chart, active=true, expiration=2023-03-31, attributes={png=true, pdf=true, csv=true}] [name=Stacked Bar Chart, active=true, expiration=2023-03-31, attributes={png=true, pdf=true, csv=true}] [name=Heatmap, active=true, expiration=2023-03-31, attributes={png=true, pdf=true, csv=true}] [name=Dials, active=true, expiration=2023-03-31, attributes={}] [name=Regression Analysis, active=true, expiration=2023-03-31, attributes={png=true, pdf=true, csv=true}] [name=Et Analysis, active=true, expiration=2023-03-31, attributes={png=true, pdf=true, csv=true}]</pre>
Locale	en_US
Version	3.4.6
Commit Hash	6983a1616
Brand Name	N4 Energy Manager

Optimizer Suite

Honeywell introduced new Optimizer Suite. As one part of it the new Niagara based Optimizer Advanced Controller was introduced. The Optimizer Advanced Controller is available for SBC as well.

STATION MIGRATION ENERGY VISION TO ENERGY MONITORING

Energy Manager does support upgrade of 2.x stations

Station Migration is a step by step approach and requires below actions:

- Station Migration is possible without the Energy Manager Pro License
- Station Upgrades needs to be done via “Energy Vision Station Migration Tool”
- To run Energy Manager with more as 3 histories the Energy Manager Pro License must be installed
- Energy Manager Modules needs to be installed
- Depending on the station size it could be required to adapt the Workbench heap size
- Station needs to be Migrated
- Old “Energy Vision Modules” should be deleted

Note: If for e.g. safety reasons the station migration is not possible to be executed on the customer PC, the migration can be carried out on a separate PC using the backup that has been taken

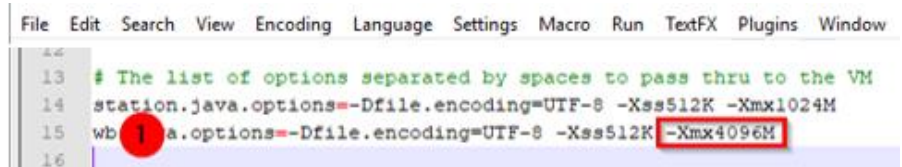
In any case **take a backup of the station** before starting the migration as station cannot be revised after the migration

Increase Workbench heap size

It is not necessary to increase the Workbench heap size but for bigger installations, it is recommended to increase Workbench heap size before station migration

Step by step:

1. Start Notepad++ in admin mode
2. Open e.g. C:\SBC\ SaiaPCDSupervisor-4.13.xx\defaults\nre.properties
3. Modify the station setting e.g. to **-Xmx to 4096M**



The screenshot shows a Notepad++ window with the following text:

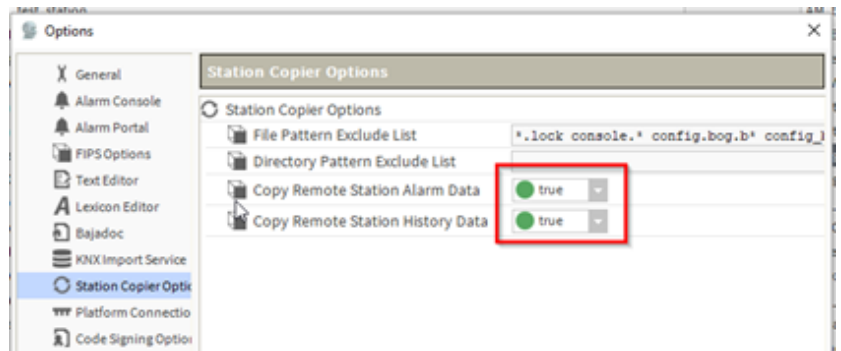
```
13 # The list of options separated by spaces to pass thru to the VM
14 station.java.options=-Dfile.encoding=UTF-8 -Xss512K -Xmx1024M
15 wb | a.options=-Dfile.encoding=UTF-8 -Xss512K -Xmx4096M
16
```

A red circle highlights the pipe character (|) on line 15, and a red rectangle highlights the modified heap size value (-Xmx4096M) on the same line.

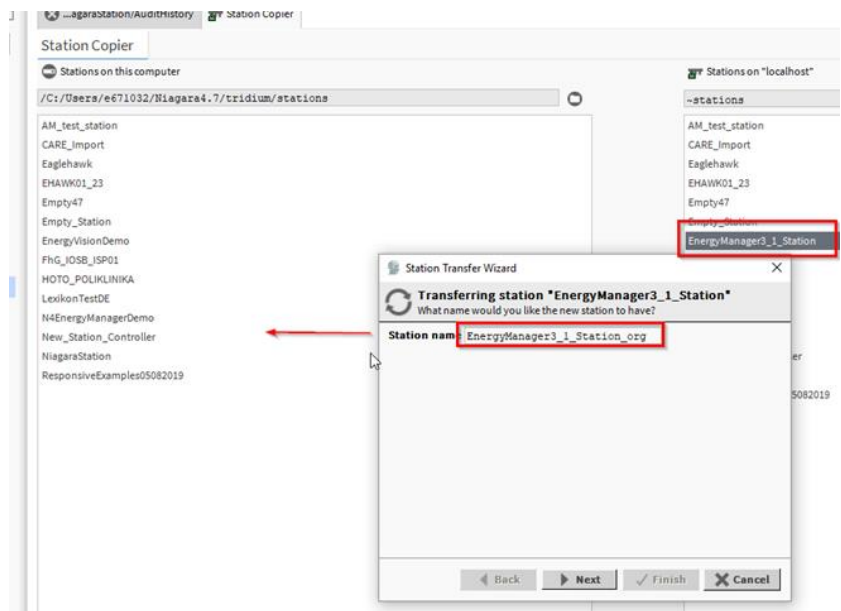
4. Save changes
5. Copy the file to
C:\ProgramData\Niagara4.13\SBC\etc\
-> (Daemon User Home)
C:\Users\Username\Niagara4.13\SBC\etc\
-> (Workbench User Home)
6. Start “Install Platform Daemon”

Step by step

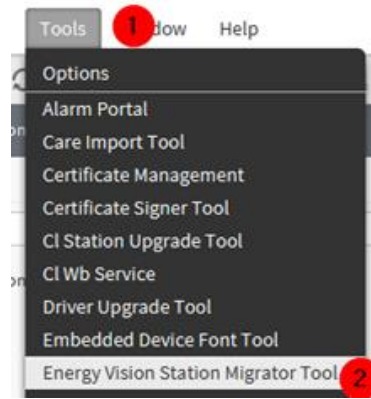
1. Ensure that all histories (alarms) will be added, before executing station copy to Workbench user home
Tools → Options → Station Copier Options and enable the required options needed



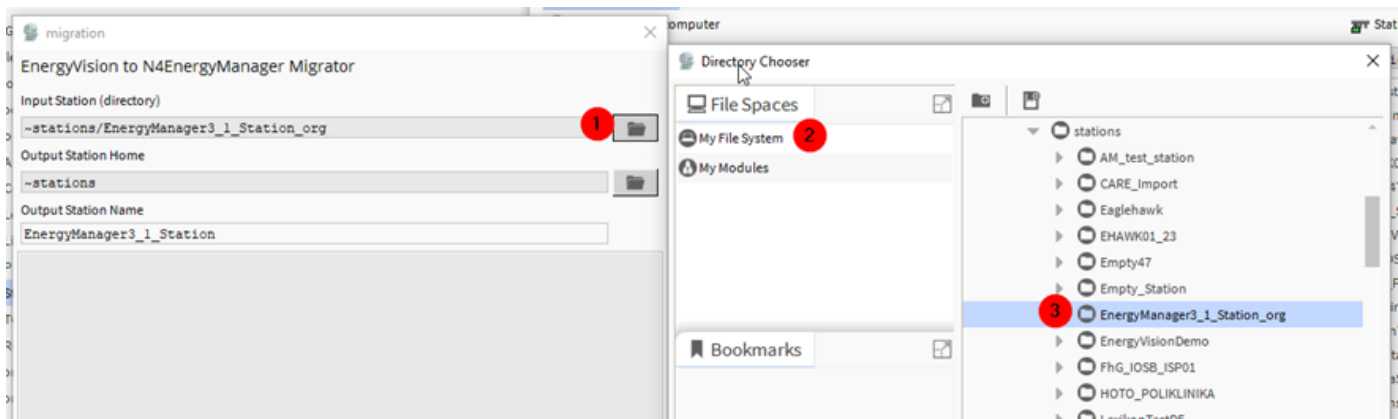
2. Stop Station
3. Create a backup of your station (Save the station backup on separate drive)
4. Close Workbench
5. Copy the new n4EnergyManger-v3.6.0 jars files to Workbench modules folder
6. Execute "Install Platform Daemon"
7. Start Workbench
8. Copy the station from "Station on local host to "Stations on this Computer" (Workbench User Home)



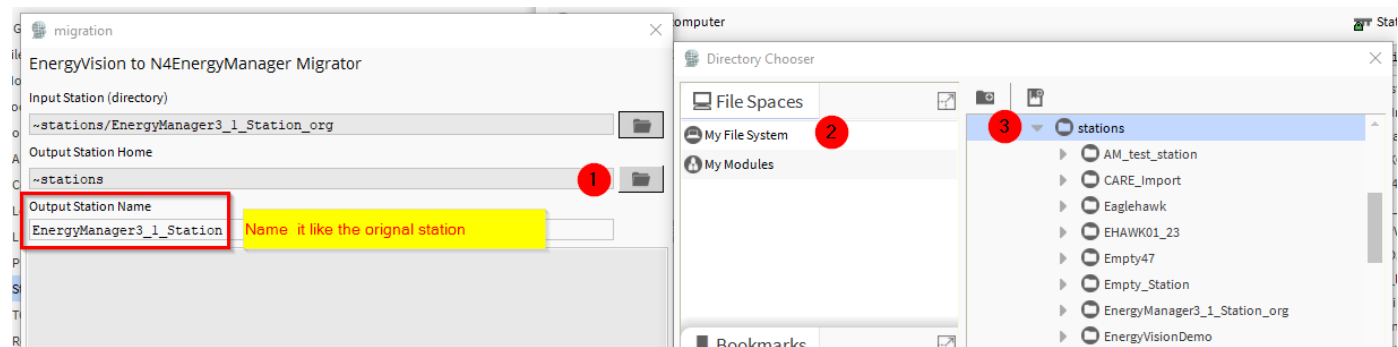
9. Upgrade Station running “Energy Vision Station Migrator Tool”



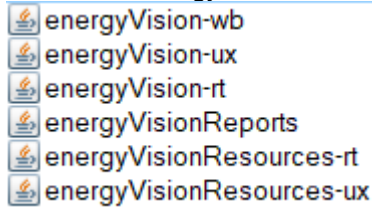
10. Select the Station from “Workbench User Home”



11. Destination & Station name



12. Rename / Delete the Station on "Station on local host"
13. Copy migrated station via Station copier from Workbench User Home to "Stations on "Localhost" without changing its original name (This would break the paths).
14. Close Workbench
15. Delete the Energy Vision modules in the Workbench modules folder



SECURITY

Energy Manager 3.6.0 all modules are signed to follow up the certification rules by Saia PCD Supervisor

DIN EN ISO 50001

With Energy Monitoring it is possible to fulfil the requirements for the DIN EN ISO 50001 certification process for energy management systems.

ENERGY MONITORING is listed on BAFA (German market) since February 2020.

- Therefore, the projects are promotable up to 40% by BAFA

LICENSING

The pre-requisite to run ENERGY MONITORING is that you already have one of the four licenses listed below:

- Saia PCD Supervisor

When you order a license, Honeywell will bind the licenses which will be available on your Niagara Central account.

To order the correct number of licenses, please consider the following: Any history connected to an aggregator counts as one meter point. You can connect the history to any number of aggregators and you still have to count it only once.

Running Energy Manager without an Energy Manager PRO license (CORE license)

- Energy Manager version $\leq 3.2.4$ does required to order a free of charge Energy Manager CORE license feature
- Beginning with Energy Manager 3.3.x, the licenses will be automatically a CORE license
- Supported Vendor IDs

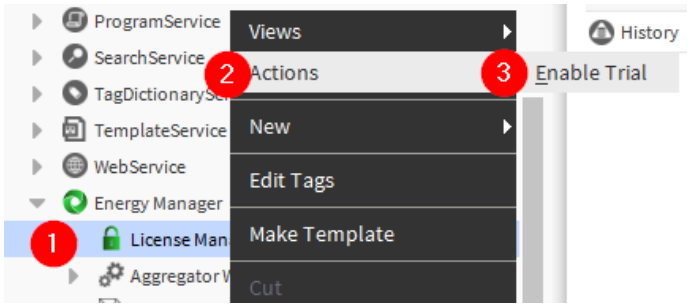
Brand Name	Vendor ID
Alerton-	Alerton
CentraLine	HoneywellCentraLine
ComfortAndEnergy	Honeywell Comfort&Energy
ComfortPoint	Honeywell ComfortPoint N4
Trend	Trend_Control_Systems_Ltd
SBC	SaiaBurgessControls
Webs	Honeywell

Supported modes, running the Energy Manager without PRO License

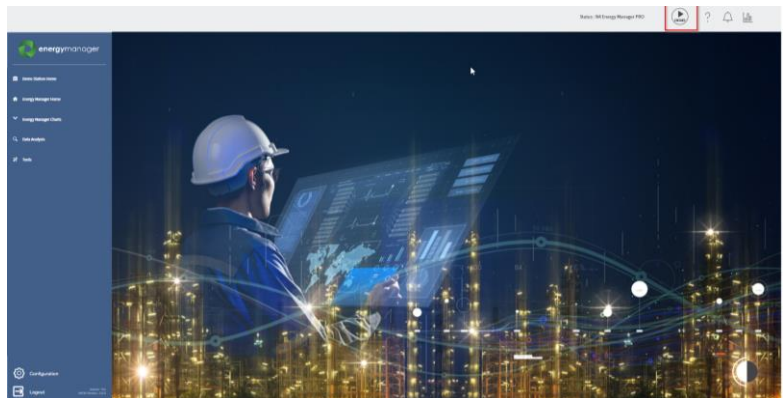
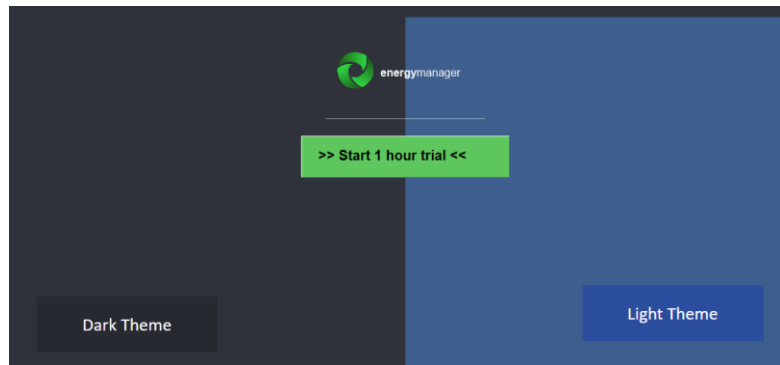
- By default, Energy Manager does run in Demo Mode on all licensed Workbench setups supporting following features:
 - Up to 3 Meters will run with full functionality
 - The menu will support up to 10 entries
- Exceeding the above limits will cause
 - All meters > 3 will not be calculated
 - Having more than 10 menu entries will cause, that the menu will not be displayed at all

Energy Manager still does provide the one-hour trial mode, supporting following features

- The trial license will run one hour (after the one-hour trial mode will be expired, requires restart of the station)
 - Menu will be shown
 - Meters will be filled up with random data
- Enable Trial Mode
 - Via Energy Manager "License Manager"



- o Via demo station



To license your software, you need an account in the Niagara Central.

If you are a new customer and do not have an account.

1. You will have to order PCD8.SUP-NAA-STK5, PCD8.SUP-NAA-STK1, PCD8.SUP-NAA-REN or PCD8.SUP-NAA-MON.
2. Send a copy of your purchase order PO to the SBC License Mailbox <axlicensing@honeywell.com> and ask to enable your account

PCD8.SUP-NAA-STK5, PCD8.SUP-NAA-STK1 always contains engineering license. PCD8.SUP-NAA-ENG need additional engineering license.

SBC will provide you unbundled licenses for the software you have ordered.

For Saia PCD Supervisor you only need the Host ID.

You will find your host ID under your Platform Administration section.

The screenshot shows the Niagara Central web interface. On the left, the navigation pane has 'Platform Administration' selected. The main content area shows the 'Platform Administration' section with a 'View Details' button highlighted. Below this, a table of system information is displayed, with the 'Host ID' field highlighted in red. The table contains the following information:

Baja Version	Tridium 4.2.36.34
Daemon Version	4.2.36.34
System Home	C:\CentralLine\CentralLineNX-4.2.36.34
User Home	C:\ProgramData\Niagara4.2\tridium
Host	My Host: GE51LT57PSR32_global.ds.honeywell.com
Daemon HTTP Port	3011 (disabled in TLS settings)
Daemon HTTPS Port	5011
Host ID	Win-159C-FAE1-BB5E-440D
Model	Workstation
Product	Workstation
Local Date	09-Nov-17
Local Time	15:49 Central European Time
Local Time Zone	Europe/Berlin (-1/+2)
Operating System	Windows 7 Enterprise (6.1)
Niagara Runtime	nre-core-win-x64 (4.2.36.34)
Architecture	x64
Enabled Runtime Profiles	rt_se_ux_wb

ENERGY MONITORING ISSUES SUMMARY

Fixed Issues and updates within this Release

v3.6.0 (31-01-2024)

- [fix] - Vertical Menu component does not recognise colour strings
- [fix] - Issues with multiple Y axes on the line chart.
- [fix] - History extension throws duplicate history extension post csv
- [fix] - PDF Report Save : Remove the Popup to apply the selection.
- [fix] - Heatmap chart's unit is defaulting to °C when aggregator does not have units set in facets.
- [fix] - Relativized Bar chart as Popup does not work in Web browser. [FOR-2476]
- [fix] - N4Energy manager crashes in presence of 3rd party modules that use React library.
- [fix] - Aggregator taking account nan (not a number) and infinite numbers. [FOR-2300]
- [fix] - The currency sign is defaulted to dollar upon downloading a png/pdf.
- [fix] - Home button does not work. [FOR-1803]
- [fix] - Data Integrity: Inactive and Offline meter count are not shown on line chart and Pie chart.
- [fix] - Cost display on Energy Comparator is missing. [FOR-1253]
- [improvement] - Total value is missing in the Pie chart's tooltip.
- [improvement] - It should be possible to write to Custom Period's properties "Event" and "Period".
- [improvement] - More than 50 meters on an Aggregator is needed.
- [improvement] - Allow y-axis tick to display fractional numbers on line chart.
- [improvement] - EM Data Quality Alarm after reading the same value 20 times. [FOR-2308]
- Offline/Inactive threshold time intervals are added.
- These intervals can be defined globally in Data Quality Service or be overwritten locally in individual meters.

- [feature] - Weather service with outdoor temperature history syncing capabilities.
- [feature] - Site component that has a weather station from weather service attached to it.
- [feature] - Anomaly Detection based on Machine Learning models.

v3.5.0 (11-04-2023)

- [fix] - Line chart is not updated correctly for January for weekly and year view [FOR-1951, FOR-1991]
- [fix] - Offline option in a meter inside an aggregator should return true for history with null reading [FOR-1663]
- [fix] - Formulas disabled in N4EnergyManager invoice spreadsheet [FOR-1811]
- [fix] - Chart Data Binding: Ord popup window cannot load
- [fix] - Stacked Bar chart: aggregators are not shown under meters tab of data-config popup
- [fix] - Stacked Bar chart: rendering issue when not all bars are toggled on and user selects different time periods
- [fix] - Tooltips: correct timestamp formats, they should not be shown for future timestamps
- [fix] - Niagara 4.12 compatibility issues
- [feature] - Background transparency support for vertical menu and charts [FOR-1914]
- [feature] - Start/end of meter readings in Excel report for aggregators with a single accumulative meter [FOR-1967]

- [feature] - Ability to show symbols on top of lines in line charts [FOR-1951]
- [feature] - Ability for aggregators to be in the root of the station
- [feature] - Tooltips: colour keys to differentiate values on tooltips
- [feature] - Threshold colours for dial gauges, arbitrary colours for LED dial and needle gauges
- [doc] - Meter replacement
- [doc] - Addition of external database histories
- [doc] - Csv Import scheduling
- [doc] - Saving data configuration locally

v3.4.6 (20-10-2022)

- [fix] - Regression chart line missing
- [fix] - ET Analysis CSV Export not working

v3.4.5 (23-08-2022)

- [fix] - Charts update on the Chart Interval [FOR-1248]
- [fix] - Table View only shows half data when duplicate series names exist [FOR-1256]
- [fix] - PDF Reporting (Batch Reporting) is inconsistent in creating PDFs [FOR-1048]
- [fix] - Regression Chart minimap legend rounding values
- [feature] - Line chart does not show future values [FOR-1172]
- [doc] - CSV Reporting Documentation update [FOR-424]
- [doc] - Degree Day Documentation update [FOR-1377, FOR-1405]

v3.4.5 (01-08-2022)

- [fix] - stackedBarChart: User cannot choose time period under data config popup.
- [fix] - Inactive meter is not counted for a chart with multiple aggregators
- [fix] - Default timeRange "Week" does not work for any of the charts
- [fix] - Menu Builder: Energy Vision is still as text shown
- [fix] - Menu builder icon and text size settings
- [fix] - Check and fix line chart PDF Export in Daily or Weekly view
- [fix] - Tidy up Legend
- [fix] - DQ calculation bug. DQ data unavailable even though history contains a complete dataset.
- [fix] - Aggregator output is null when run with local history data plus history data from new Niagara Archive History Provider.
- [feature] - Pdf Report Builder: User needs to scroll up each time to choose the required changes while designing the Footer
- [feature] - Needle Gauge does show decimal places [FOR-1254]
- [feature] - Update CSV Report to allow weekly view
- [feature] - Add an option to set the table view as default
- [feature] - Submenu reverting to Top level menu

v3.4.4 (11-04-2022)

- [fix] - Line chart: Pdf or Png instant reports are generated with the time stamp on the axis truncated
- [fix] - Heatmap 3.4.3: Disable all month will not stored when moving to another year
- [fix] - Pie chart rendering issues when used in combination with responsive views
- [fix] - N4EM - Stacked bar chart error.
- [fix] - Error in Energy manager - Display of PDF Report
- [fix] - Niagara 4.11: Cannot generate pdf report.
- [fix] - N4.11: Not all the charts are loading
- [fix] - NEM3.4.1- Warning about illegal char?' in menuBuilderIcon.eot
- [fix] - N4E4Support - Browser PDF save issue
- [fix] - N4E4Support - N4 Energy Manager - PDF Download

- [fix] - n4em px page migration - migrated pages does not retain px layering information.
- [fix] - Issue with N4 chart widget
- [fix] - Blank charts are generated for downloading PNG and PDF weekly line chart.
- [fix] - Displaying the Bar chart data table incorrect order in workbench only
- [fix] - N4EMSupport - bug in stacked bar chart for Energy Manager

v3.4.3 (13-01-2022)

- [fix] - Fixed Pdf reporting in N4.10.1.36

Known issues

- FOR-2476 Relativized Bar chart as Popup does not work in Web browser

Having the Aggregator ords been relativized in the bar chart this will not work anymore using the graphic as popup

FOR-1794 User without Internet access gets error message opening a chart

If a user hasn't got the rights to connect to the Internet from his PC, every page he opens a chart or report in N4 Energy Manager he receives an error message.